

A3  
a dial-up client providing dialing services to access the remote access switch;  
a custom script dynamically linked library providing an interface between the dial-up client and the client-side cryptographic function;  
a security device holding authentication information;  
a security device reader attached to the client computer for reading the security device; and  
a directory service accessed by the server-side cryptographic function.

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A4  
[c16] (Amended) The client computer of claim 15, further comprising:  
a security device reader attached to the client computer for reading a security device.

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A5  
[c18] (Amended) The client computer of claim 15, wherein the custom script dynamically linked library comprises a SDLogin component and a SDSetupDial component.

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A6  
[c20] (Amended) A client computer comprising:  
a dial-up client providing dialing services to the client computer;  
a client-side cryptographic function providing cryptographic services located on the client computer;  
a custom script dynamically linked library providing an interface between the dial-up client and the client-side cryptographic function; and  
a security device reader attached to the client computer for reading a security device.

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A7  
[c24] (Amended) A method of integrating via a dial-up interface, comprising:  
sending session initiation information from a dial-up client to a PKI-Bridge;  
checking session initiation information by the PKI-Bridge;  
generating a challenge string by a server-side cryptographic function;  
forwarding the challenge string to a custom script dynamically linked library;

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forwarding the challenge string to a client-side cryptographic function from the custom script dynamically linked library;  
utilizing a private key from a security device;  
generating a response string;  
signing the response string with the private key of a dial-in user;  
forwarding a signed response string to the custom script dynamically linked library;  
dividing the signed response string into packets;  
forwarding packets to the PKI-Bridge;  
reconstructing the signed response string from packets;  
forwarding a reconstructed signed response string to the server-side cryptographic function;  
obtaining a public key of the dial-in user; and  
verifying the reconstructed signed response string using the server-side cryptographic function.

[c25] (Amended) The method of claim 24, further comprising:  
reading the security device by a security device reader.

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[c34] (Amended) A method of integrating via a dial-up interface, comprising:  
sending session initiation information from a dial-up client to a PKI-Bridge;  
checking session initiation information by the PKI-Bridge;  
generating a challenge string by a server-side cryptographic function;  
forwarding the challenge string to a custom script dynamically linked library;  
forwarding the challenge string to a client-side cryptographic function from the custom script dynamically linked library;  
utilizing a private key from a security device;  
generating a response string;

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signing the response string with the private key of a dial-in user;  
forwarding a signed response string to the custom script dynamically linked library;  
dividing the signed response string into packets;  
forwarding packets to the PKI-Bridge;  
reconstructing the signed response string from packets;  
forwarding a reconstructed signed response string to the server-side cryptographic function;  
obtaining a public key of the dial-in user;  
verifying the reconstructed signed response string using the server-side cryptographic function;  
reading the security device by a security device reader;  
encoding the signed response string;  
decoding the signed response string;  
forwarding the challenge string to the dial-up client;  
forwarding the challenge string to the PKI-Bridge; and  
forwarding packets from the custom script dynamically linked library.

[c35] (Amended) An apparatus of integrating via a dial-up interface, comprising:  
means for sending session initiation information from a dial-up client to a PKI-Bridge;  
means for checking session initiation information by the PKI-Bridge;  
means for generating a challenge string by a server-side cryptographic function;  
means for forwarding the challenge string to a custom script dynamically linked library;  
means for forwarding the challenge string to a client-side cryptographic function from the custom script dynamically linked library;

means for utilizing a private key from a security device;  
means for generating a response string;  
means for signing the response string with the private key of a dial-in user;  
means for forwarding a signed response string to the custom script dynamically  
linked library;  
means for dividing the signed response string into packets;  
means for forwarding packets to the PKI-Bridge;  
means for reconstructing the signed response string from packets;  
means for forwarding a reconstructed signed response string to the server-side  
cryptographic function;  
means for obtaining a public key of the dial-in user; and  
means for verifying the reconstructed signed response string using the server-side  
cryptographic function.

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